

Subject	CHEMISTRY	Grade	9
Student		Date	

ASSESSMENT TASK - EMISSION SPECTRA DESIGN

You have to design an experiment to investigate the effect of a factor on the emission spectra of salts.

Your work should be presented in the following way:

- **Aim/Research Question** - Describe a problem or question to be investigated (What are you going to investigate?).
- **Hypothesis** - Make a prediction with a detailed scientific explanation of what you think will happen.
- **Variables** - Independent, Dependent and Controlled (explain how you will manipulate them).
- **Materials** - Detailed list of equipment.
- **Method** - Describe in steps what you will do, remember to use command words to start the sentence.
- **Results** - Table of data, remember labels and units.
- **Conclusion** - Describe and explain your results correctly using scientific reasoning.
- **Evaluation** - Discuss the validity of your hypothesis based on the data you collected (how confident are you? why?), discuss the validity of the method (did you manipulate the variables so it was a fair test?) and describe improvements and extensions (further experiments).

The planning is in **pairs** however the write up is in **individual**. You will be graded on **Criteria B and C**.

CRITERIA AND ASSESSMENT RUBRICS

Criterion B: Inquiring and Design

level	Level descriptor	Student	Teacher
0	The student does not reach a standard described by any of the descriptors below.		
1-2	The student is able to: i. state a problem or question to be tested by a scientific investigation, with limited success ii. state a testable hypothesis iii. state the variables iv. design a method, with limited success .		
3-4	The student is able to: i. state a problem or question to be tested by a scientific investigation ii. outline a testable hypothesis using scientific reasoning iii. outline how to manipulate the variables, and state how relevant data will be collected iv. design a safe method in which he or she selects materials and equipment .		
5-6	The student is able to: i. outline a problem or question to be tested by a scientific investigation ii. outline and explain a testable hypothesis using scientific reasoning iii. outline how to manipulate the variables, and outline how sufficient, relevant data will be collected iv. design a complete and safe method in which he or she selects appropriate materials and equipment .		
7-8	The student is able to: i. describe a problem or question to be tested by a scientific investigation ii. outline and explain a testable hypothesis using correct scientific reasoning iii. describe how to manipulate the variables, and describe how sufficient, relevant data will be collected iv. design a logical, complete and safe method in which he or she selects appropriate materials and equipment .		

Criterion C: Processing and Evaluating

level	Level descriptor	Student	Teacher
0	The student does not reach a standard described by any of the descriptors below.		
1-2	The student is able to: i. collect and present data in numerical and/or visual forms ii. accurately interpret data iii. state the validity of a hypothesis with limited reference to a scientific investigation iv. state the validity of the method with limited reference to a scientific investigation v. state limited improvements or extensions to the method.		
3-4	The student is able to: i. correctly collect and present data in numerical and/or visual forms ii. accurately interpret data and describe results iii. state the validity of a hypothesis based on the outcome of a scientific investigation iv. state the validity of the method based on the outcome of a scientific investigation v. state improvements or extensions to the method that would benefit the scientific investigation.		
5-6	The student is able to: i. correctly collect, organize and present data in numerical and/or visual forms ii. accurately interpret data and describe results using scientific reasoning iii. outline the validity of a hypothesis based on the outcome of a scientific investigation iv. outline the validity of the method based on the outcome of a scientific investigation v. outline improvements or extensions to the method that would benefit the scientific investigation.		
7-8	The student is able to: i. correctly collect, organize, transform and present data in numerical and/ or visual forms ii. accurately interpret data and describe results using correct scientific reasoning iii. discuss the validity of a hypothesis based on the outcome of a scientific investigation iv. discuss the validity of the method based on the outcome of a scientific investigation v. describe improvements or extensions to the method that would benefit the scientific investigation.		

Student Reflection

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Teacher Feedback

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